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**From:** Scharf, Steven (DEC) [steven.scharf@dec.ny.gov]  
**Sent:** 10/2/2014 1:30:02 PM  
**To:** Alvey, Robert [Alvey.Robert@epa.gov]  
**CC:** Mannino, Pietro [Mannino.Pietro@epa.gov]; Metz, Chloe [Metz.Chloe@epa.gov]; Stein, Carol [Stein.Carol@epa.gov]; Swartwout, John (DEC) [john.swartwout@dec.ny.gov]  
**Subject:** RE: Bethpage, NAVY drilling BPOW 4-2  
**Attachments:** Report.hw130003a.2013-08-23.LWD\_Specs\_on\_Muni\_Wells\_7A-8A-13.pdf; report.hw130003a.2003-07-01.NAVFAC\_Outpost\_Well\_Installation\_Work\_Plan\_Addendum\_Rev\_2-July\_2003.pdf; workplan.hw130003a.2013-12-03.NAVFAC\_BPOW-4-1\_&\_4-2\_Work\_Plan.pdf

Rob,

Please see responses below.

Thanks,

Steve  
Steven M. Scharf, P.E.  
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**From:** Alvey, Robert [mailto:Alvey.Robert@epa.gov]  
**Sent:** Wednesday, October 01, 2014 3:47 PM  
**To:** Stein, Carol; Scharf, Steven (DEC)  
**Cc:** Mannino, Pietro; Metz, Chloe  
**Subject:** Bethpage, NAVY drilling BPOW 4-2

Hi Steve and Carol,

I'd like to request a bit on information on the current drilling. I was able to stop by and see all three rigs by Navy at the drilling locations on Monday. Thank you for the courtesy. Brian Caldwell let me know where the rigs were specifically located. The progress is continuing and it was good to be able to observe. The one rig is re-drilling a new monitoring well, BPOW 4-2R to replace the older well as there were earlier difficulties in drilling, most likely due to the formation. In either event, a different rig is being used too, and the drill crew seems to be making good progress.

**USEPA:** I checked the data supplied last year by Arcadis from the "comprehensive" round collected in 2013, and have some questions.

While there was a minute estimated detection of TCE in BPOW 4-2, the detections of "Freon" 113 aren't something I've been particularly following as part of our EPA role..

**NYSDEC:** Freon 113 is being monitored, as one of the contaminants of concern, in the long term monitoring program. Northrop Grumman has already stated that the Bethpage facility has used Freon 113, used as a sort of electrical component degreaser. In addition, a number of monitoring wells leading up to the Outpost wells 4-1 and 4-2 also have measurable detections of Freon 113. The Levittown Water District well 13 (N5303) also has Freon 113. The Navy has been installing all of the offsite wells to date since the execution of the DEC OU2 ROD except for those being

installed as part of the NGC OU 3 Offsite program. LWD Well Outpost Wells 4-1 and 4-2 are being replaced due to a structural failure of the well cluster. We at DEC and DOH and the LWD and their consultant, D&B, have known for a while about the low level impacts of Freon 113 in the outpost wells, and now in the well 13 itself. The Water District is also now laying claim to wells 7A and 8A (N07523 & N08279), to the north and west, as needing treatment. The Navy wants to complete additional testing and evaluation prior to responding to this request from LWD.

**USEPA:** Sampling results from BPOW 4-1 and BPOW 4-2 ... Are these actual "Outpost monitoring wells" for LWD 5303? I don't have info readily available on who designed them. These are monitoring wells sampled by Arcadis/Navy in 2013. The location is basically Elm and Eden Streets about a block east of Entry Lane off Wantagh Avenue. At the intersection of Wantagh Ave and Entry Lane is a public well facility. It is identified as "LWD 5303" which I assume is Levittown Water District N-05303 would be the NYSDEC ID number for that public supply well. If so, according to my records, the ground surface is about 59' above sea level and the well is screened from 454 to 506 feet bgs. I'm a bit uncertain as to what is actually involved here. The May 2013 sampling for the 2 monitoring wells did have a couple of detections of concern. More surprisingly, BPOW 4-2 appears to have a sampling history back to at least 2006. As those results were the "previous historic high" BPOW 4-1 appears to have also been sampled at least Dec 2012. I assume there's another sampling effort that has been in effect for these wells.

**NYSDEC:** OW 4-1 and 4-2 are the outpost wells for LWD 13. They were designed and installed by Tetra Tech for the Navy about 10 years ago. The LWD well specs are attached. Northrop Grumman has been sampling these wells as part of the verbal agreements between the Navy and Grumman over the last decade and beyond. This is also covered in the Public supply well treatment contingency program.

**USEPA:** Can you provide the screen intervals for BPOW 4-1 and BPOW 4-2 as well as the targeted replacement wells screen intervals. The relocated site is only about a block from the originals. Also, who was sampling these before and are all those results available? Having tables that only show TVOCs doesn't always give the info needed for decision making.

**NYSDEC:** The specs on the outpost wells are in the attached NAVFAC report. The work plan for the OW 4-1 and 4-2 is also attached.

**USEPA:** A different topic is sampling/drilling announced for OU-3. I'm not planning on observing that as it's primarily all "on-site" and I assume we'll eventually be shared the results. If you get a chance, can we talk informally this Thurs or Tues Oct 7? Mainly want to get a better understanding. Not sure if you want to contact Brian, as he might have info to fill in my gaps. Thanks Rob Alvey

**NYSDEC:** OU 3 is a separate topic for which NGC is under an order on consent with the DEC and DEC oversight. The Hydro Effectiveness work plan will begin implementation shortly.

BPOW 4-1	BPOW 4-2		Well ID:
BPOW 4-1	BPOW 4-2		Sample ID:
5/22/2013	5/22/2013		Sample Date:
		Constituent in ug/L	
< 5.0	< 5.0	1,1,1-Trichloroethane	
< 5.0	< 5.0	1,1,2,2-Tetrachloroethane	
< 5.0	< 5.0	1,1,2-Trichloroethane	
< 5.0	< 5.0	1,1-Dichloroethane	
<b>0.21 J</b>	< 5.0	1,1-Dichloroethene	
< 5.0	< 5.0	1,2-Dichloroethane	
< 5.0	< 5.0	1,2-Dichloropropane	
< 50	< 50	2-Butanone	
< 50	< 50	2-Hexanone	
< 50	< 50	4-Methyl-2-Pentanone	
< 50	< 50	Acetone	
< 0.70	< 0.70	Benzene	
< 5.0	< 5.0	Bromodichloromethane	
< 5.0 J	< 5.0 J	Bromoform	
< 5.0	< 5.0	Bromomethane	
< 5.0	< 5.0	Carbon Disulfide	
< 5.0	< 5.0	Carbon Tetrachloride	
< 5.0	< 5.0	Chlorobenzene	
<b>0.46 J</b>	< 5.0	Chlorodifluoromethane (Freon 22)	
< 5.0	< 5.0	Chloroethane	
< 5.0	< 5.0	Chloroform	
< 5.0	< 5.0	Chloromethane	
< 5.0	< 5.0	cis-1,2-Dichloroethene	
< 5.0	< 5.0	cis-1,3-Dichloropropene	
< 5.0	< 5.0	Chlorodibromomethane	
< 5.0	< 5.0	CFC-12	
< 5.0	< 5.0	Ethylbenzene	
< 5.0	< 5.0	Methyl-Tert-Butylether	
< 5.0	< 5.0	Methylene Chloride	
< 5.0	< 5.0	Styrene (Monomer)	
< 5.0	< 5.0	Tetrachloroethene	
< 5.0	< 5.0	Toluene	
< 5.0	< 5.0	trans-1,2-Dichloroethene	
< 5.0	< 5.0	trans-1,3-Dichloropropene	
< 5.0	<b>0.30 J</b>	Trichloroethene	
< 5.0	< 5.0	CFC-11	
<b>3.8 J</b>	<b>1.5 J</b>	Trichlorotrifluoroethane (Freon 113)	
< 2.0	< 2.0	Vinyl Chloride	
< 5.0	< 5.0	o-Xylene	
< 5.0	< 5.0	m,p-Xylene	
<b>4.5</b>	<b>1.8</b>	<b>TVOCs</b>	

<b>3.2</b>	<b>1.5</b>	Highest TVOCs Observed Prior to Comprehensive Round	
12/12/2012	10/10/2006	Sample Date	
<b>3.0</b>	<b>1.1</b>	Most Recent TVOCs Prior to Comprehensive Round	
2/11/2013	2/12/2013	Sample Date	
		Notes and Abbreviations on last page.	

TOH/LWD
N-5303
N-5303
6/4/2013

0	Tetrachloroethene
0	Toluene
0	trans-1,2-Dichloroethene
0	trans-1,3-Dichloropropene
0	Trichloroethene
0	CFC-11
0	Vinyl Chloride
0	Xylene-m
0	Xylene-o
0	Xylene-p
0	
1.2	Highest TVOCs Observed Prior to Comprehensive Round
5/17/2012	Sample Date
0	
2/1/2013	